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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/747,922	12/29/2003	Francis R. Corrado	P17711	7064

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KONRAD RAYNES & VICTOR, LLP.
ATTN: INT77
315 SOUTH BEVERLY DRIVE, SUITE 210
BEVERLY HILLS, CA 90212

EXAMINER

LEROUX, ETIENNE PIERRE

ART UNIT PAPER NUMBER

2161

DATE MAILED: 08/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/747,922

Applicant(s)

CORRADO ET AL.

Examiner

Etienne P. LeRoux

Art Unit

2161

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/29/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Status

Claims 1-40 are pending. Claims 1-40 are rejected as detailed below.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 recites “wherein the number of progress indicator data write operations is less than the number of copy data write operations.” The specification does not include a clear and concise description of how and why the data operations is than the number of write operations such that a skilled artisan can make and use the present invention. In fact, the specification does not even include the words “less than.” The above limitation will not be patentable weight. In fact examiner will assume per what is well-known and expected in the art that the number of copy operations is identical to the number of write operations. Applicant gives no reason or suggestion why the number of copy operations are, or should be, different from the number of write operations.

Claims 13, 25 and 38 include language similar to the above and thus are rejected on the same basis. Claims, 2-12, 14-24, 26-37 and 39 and 40 are rejected for at least, being dependent from a rejected base claim.

Claim 10 and 22 includes “the last progress indicator written to the area of the destination volume lacks an indication that the particular data has been successfully copied to the destination volume.” The specification does not include a clear and concise description of the manner and process of making and using the above claimed “lack of indication” such that a skilled artisan can make and use the present invention. In fact, the specification does not even address the situation pertaining to a “lack of indication.” The above limitation will not be patentable weight.

Claim 11 and 23 recites “wherein said units of data are copied to the destination volume in address sequential order and the defined set of conditions includes the condition of a unit of data in the sequence to be copied having a destination location within the destination volume, which overlaps with a portion of the source location within the source volume containing units of data copied and the last progress indicator lacks an indication that the units of data of the source volume portion have been successfully copied to the destination volume.” The specification does not include a clear and concise description of the manner and process of making and using the above claimed “overlap with a portion of the source location within the source volume” such that a skilled artisan can make and use the present invention. In fact, the specification does not even address the situation pertaining to a “lack of indication.” The above limitation will not be patentable weight.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term “progress indicator” in claims 1, 13 25 and 28 is used by the claim to mean “to move forward to completion,” while the accepted meaning is “checkpoint.” The term is indefinite because the specification does not clearly redefine the term.

Claims 2-12, 14-24, 26-38 and 39 and 40 are rejected for at least, being dependent from a rejected base claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1-6, 10-18, and 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat No 6,467,023 issued to DeKoning et al (hereafter DeKoning), as best examiner is able to ascertain.

Claims 1, 6, 10, 11, 13, 18, 22 and 23, :

DeKoning discloses:

copying a unit of data in a copy data write operation from a source volume of a first organization type to a destination volume of a second organization type; writing a progress indicator in a progress indicator data write operation to an area of said destination volume indicating the successful copying of at least said unit of data; copying a plurality of additional units of data in a plurality of additional copy data write operations from said source volume to said destination volume; and writing an additional progress indicator in an additional progress indicator data write operation to said area of said destination volume indicating the successful copying of at least said plurality of units of data wherein the number of progress indicator data write operations is less than the number of copy data write operations [Fig 2, 206, Fig 3, col 8, lines 1-5, col 8, lines 30-40, col 9, lines 1-5]

Claims 2 and 14:

DeKoning discloses wherein said second organization type is a Redundant Array of Independent Disks organization [col 3, line 64].

Claim 3 and 15:

DeKoning discloses wherein said unit of data is a stripe of data written across an array of disks of said Redundant Array of Independent Disks organization [paragraph 24]

Claims 4 and 16:

DeKoning discloses copying an additional unit of data in an additional copy data write operation from said source volume to said destination volume; testing for the presence of at least one condition of a defined set of conditions; and writing an additional progress indicator in connection with said copying an addition unit of data when any one condition of said defined set of conditions is present [Fig 3, portion per col 7, lines 40-50]

Claims 5 and 17:

DeKoning discloses wherein said testing tests for the presence of each condition of said defined set of conditions, the method further comprising: bypassing the writing of an additional progress indicator in connection with said copying an addition unit of data when each condition of said defined set of conditions is absent [Fig 3, col 7, lines 40-50].

Claims 12 and 24:

DeKoning discloses wherein said area of said destination volume is a Redundant Array of Independent Disks organization configuration area [col 3, lines 60-65]

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeKoning in view of US Pat No 6,058,489 issued to Schultz et al (hereafter Schultz), as best examiner is able to ascertain.

Claims 7 and 19:

DeKoning discloses the elements of claims 1-6/13-19 as noted above but does not disclose wherein said defined set of conditions includes the condition of the destination location within the destination volume for a particular unit of data overlaps with the source location within the source volume for the particular unit of data. Schultz discloses wherein said defined set of conditions includes the condition of the destination location within the destination volume for a particular unit of data overlaps with the source location within the source volume for the particular unit of data [col 13, lines 10-30]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify DeKoning to include wherein said defined set of conditions includes the condition of the destination location within the destination volume for a particular unit of data overlaps with the source location within the source volume for the particular unit of data as taught by Schultz for the purpose of preventing portions of the source logical volume to the overwritten [col 13, lines 25-30].

Claims 8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeKoning in view of Pub No US 2004/0260873 issued to Watanabe (hereafter Watanabe), as best examiner is able to ascertain.

Claims 8 and 20:

DeKoning discloses the elements of claims 1-6/1-19 as noted above but does not disclose wherein said defined set of conditions includes the condition of the expiration of a predetermined time period since the last progress indicator data write operation. Watanabe discloses wherein said defined set of conditions includes the condition of the expiration of a predetermined time period since the last progress indicator data write operation [paragraph 57]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify DeKoning to include wherein said defined set of conditions includes the condition of the expiration of a predetermined time period since the last progress indicator data write operation as taught by Watanabe for the purpose of maintaining a status indication of the primary storage data and replicated data [paragraph 57].

Claims 9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeKoning in view of US Pat No 5,701,463 issued to Malcolm (hereafter Malcolm), as best examiner is able to ascertain.

Claims 9 and 21:

DeKoning discloses the elements of claims 1-6/13-20 as noted above but does not disclose wherein said defined set of conditions includes the condition of the count of copy data

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write operations since the last progress indicator data write operation exceeding a predetermined count. Malcolm discloses a stub that checks a “copies in use” count stored in a shared server file [col 1, lines 50-65]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify DeKoning to include wherein said defined set of conditions includes the condition of the count of copy data write operations since the last progress indicator data write operation exceeding a predetermined count based on the disclosure of Malcolm for the purpose of controlling the number of copies released over the network [col 1, lines 50-65].

Regarding claims 25-40, examiner maintains such claims can be rejected on the same basis as claims 1-24.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Etienne P. LeRoux whose telephone number is (571) 272-4022. The examiner can normally be reached Monday through Friday, between 8:00 am and 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on (571) 272-4146. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Etienne LeRoux

8/11/2006

Handwritten signature of Etienne LeRoux in cursive script.

Primary Examiner